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ABSTRACT

The appropriateness and usefulness of indicators used on the Progress Profiles of the Louisiana State Department of Education were studied using data from 1,336 public regular education schools in Louisiana. Categorization variables considered included socioeconomic and demographic indicators and school size and type. School effectiveness indicators reported and evaluated are: (1) class size; (2) classes taught by certified teachers; (3) student dropouts; (4) student attendance; (5) students suspended and expelled; (6) American College Test (ACT) results; and (7) state criterion and norm-referenced test results. Student achievement among Louisiana schools was inversely related to the socioeconomic status of the student population, the percentage of students suspended, and the percentage of dropouts. Student achievement was directly related to percentage of student attendance and the percentage of classes taught by certified teachers. School size and type and class size appeared to have little direct impact on test scores, although school size was important in conjunction with other variables. Results suggest that, in Louisiana, large schools are not educationally effective for economically deprived students. In addition, teacher certification does not appear to have as great an impact as expected. ACT results do appear to accurately reflect education in Louisiana. An appendix contains 11 tables of study findings. (SLD)

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SCHOOL ACCOUNTABILITY: PREDICTORS AND INDICATORS OF LOUISIANA SCHOOL EFFECTIVENESS

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Louisiana Department of Education

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SCHOOL ACCOUNTABILITY: PREDICTORS AND INDICATORS OF LOUISIANA SCHOOL EFFECTIVENESS

Introduction

The Louisiana Department of Education (LDE) maintains a large information system that contains a wealth of school-level information. However, this system is composed of multiple databases in a nonintegrated format and many reports are generated using only certain segments of the system. These reports often present the data in a tabular format aggregated to the district level. Little, if any, analysis or explanation accompanies the reports, leaving it up to the user to make some sense of what is being presented. School reform legislation passed by the Louisiana legislature in 1988 has forced the LDE to examine how data is collected, managed, and reported. In addition, accountability and school effectiveness concerns have resulted in the production of school-, district-, and state-level report cards called *Progress Profiles*.

The *Profiles* report information on eight indicators that were chosen to reflect the results from effective school research. The appropriateness and usefulness of including these indicators on the *Profiles* are a major points of concern. Empirical evidence as to the relationship among both indicator and categorization variables will help policy makers determine needed modifications to not only the current reporting system but to education as a whole.

Theoretical Framework

The reaction to school report cards has been mixed. Generally principals and administrators view the process as a waste of time and money, especially when the report cards appear to have little impact on parents. Documents of this type are used extensively by aggressive news organizations, real estate agents, and companies involved in relocating employees (Goldman, 1990). Though these documents contain useful information, by themselves they are inadequate. According to Odden (1990),

> Monitoring outcomes alone does not provide enough information to determine why changes in outcomes occur over time . . . we . . . need a considerable amount of research both on how to produce better individual indicators . . . and research on how the core components of the educational system work together to produce system conditions. (p. 24)

One of the major criticisms of school accountability reports and publications such as the U.S. Department of Education's renowned "wall chart," is that they are "published each year without an analytic report that seeks to make sense of the data" (Odden, 1990, p. 26). Odden (1990) goes on to say,

> The missing ingredient in most education indicator systems is analysis of the data that are included in them. Analysis is critical; it makes sense of the data, explores relations among the inputs, processes, and outputs of the education system, and policy recommendations for change. (p. 29)

This report attempts to address this issue by providing an analysis of the information collected and reported through the *Progress Profile* Program.

The reform legislation also mandated that Louisiana schools be compared on an equitable basis to reward those showing superior achievement. A categorization procedure to ensure the comparison of schools with similar student compositions was developed. The categorization model is used to group schools based on grade level (school type), membership (size), and percentage of students on free lunch (socioeconomic or SES factor). This research examined the relationships that exist among the categorization variables and the *Profile* indicators and offers suggestions for further study.

Categorization Variables

As previously mentioned, there are two types of variables being considered. First, the socioeconomic (SES) and demographic indicators are considered the input variables. These are the variables most often used in regression analysis to predict student achievement. Since the Coleman report (1966), it has been an accepted fact that, even though schools can make a difference, the socioeconomic background of students do have a great influence on their achievement scores. Consequently, most educators feel that it is unfair to try to compare the test scores of high SES schools with those of low SES schools.

SES, in one form or another, is used in almost all research where predictions are made of student achievement (Teddlie, Kirby, & Stringfield, 1989). Some SES variables frequently used in research to predict student achievement are percent of students on free lunch, average family income, percent minority, parent education, and parent occupation. In this study, the percent free lunch was deemed the most accurate data available.

Exploratory stepwise regression analysis also determined percent free lunch to be the strongest predictor. Hence, this variable became an essential component in the categorization model.

Another categorization variable chosen was that of school type (primary, elementary, middle school, high school, and combination school). As research has found differences in the characteristics that contribute to effectiveness in different types of schools (Virgilio, Teddlie, & Oescher, 1991), the feeling was that schools could be more fairly compared when grouped according to these types.

The third variable used in the categorization model was that of school size. The reason for using school size was based on principal and superintendent opinion, rather than evidence from research. As a matter of fact, research seems to contradict the common belief that the larger the school the better (Lutz. 1990; McIntire & Marion, 1989; Stemnock, 1974). Previous research has found an interactive effect between school size and SES, especially for low SES schools (Franklin et al., in press; Friedkin & Necochea, 1988). Franklin el al., (in press) found that, small low SES schools yielded significant higher achievement scores than larger low SES schools. Consequently, further research was deemed necessary to determine the appropriateness of inclusion of these variables in future categorization activities. The primary goal was to find those variables that most equitably grouped the schools for comparison.

School Effectiveness Indicators

School accountability systems (i.e., school report cards) have been established in numerous states across the nation. Each accountability report varies in detail and type

of educational indicators presented (Goldman, 1990). An educational indicator has been defined as some type of statistic that reveals the health or condition of education. It needs to provide an assessment or description of the system or demonstrate a relationship to some desired outcome. In addition, it should be valid and useful in policy decision making activities (Oakes, 1986; Smith, 1988).

THE *LOUISIANA PROGRESS PROFILES* (1991) REPORTED SCHOOL-LEVEL INFORMATION ON EIGHT INDICATORS:

1) CLASS SIZE CHARACTERISTICS,
2) CLASSES TAUGHT BY TEACHERS WHO MEET STATE REQUIREMENTS,
3) STUDENT DROPOUTS,
4) STUDENT ATTENDANCE,
5) STUDENTS SUSPENDED AND EXPELLED,
6) ACT RESULTS: AVERAGE COMPOSITE SCORES, AND
7) STATE TEST RESULTS (Criterion- & Norm-Referenced).

Class Size Characteristics

Class size is reported as frequency counts and percentages within specified ranges of classroom memberships at the school level. Only percentages are reported for the district and state. The information is presented in tabular form for two grade configurations: K-3 and 4-12. This is done because the State Board of Elementary and Secondary Education has set two different class size requirements for grades K-3 and for grades 4-12. The table reports class size in ranges of student counts. For purposes of analysis, the percent

of classes with more than 20 students was calculated for each school and used as the measure of class size in this study.

Classes Taught by Teachers Who Meet State Requirements

The percent of *classes* taught by teachers who meet state requirements was reported in tabular format on the 1991 *Profile* using three categories for the school, district and state. Category 1 represented classes taught by teachers holding a state issued certificate. Category 2 represented classes taught by teachers who were given authorization to teach the class on a permanent or temporary basis, but do not hold a state certificate for this particular class. Category 3 classes were taught by teachers not meeting either of the other two requirements. The 1991 *Profile* reported the number and percent of classes in each category for the school. The district and state columns showed only percentages. The justification for reporting certification by class (**not by teacher**) was to provide parents with more detailed information regarding the qualifications of the classroom teachers. All teachers in a school may be certified, however in Louisiana they may not be certified in every class in which they teach.

Student Dropouts

Dropout information is reported only for grades 7-12 because the emphasis at the national level is on these grade levels. The 1991 *Profile* reports the number and percent of dropouts for the school and the percent of dropouts (# of dropouts/cumulative enrollment) for the district and state. A dropout is any student who fails to return to school from the previous year and has not: graduated; transferred to another school or to another state-approved educational program (e.g., GED Program); died; or, temporarily

stopped attending school due to illness. This is the first time dropout data has been collected under this definition, therefore previous reports of dropout rates cannot be legitimately compared.

Student Attendance

The LDE regularly collects attendance data at the end of the school year as an aggregate of the days attended for all students and an aggregate of the days students are in membership. The student attendance indicator reports the aggregate days of attendance as a percentage of the aggregate days of membership.

Students Suspended and Expelled

This indicator reports the number of students suspended and expelled as a percentage of the school's or district's cumulative enrollment. In-house suspension is viewed by the LDE as an intervention strategy rather than a suspension, therefore only students suspended off-the-premises are counted.

ACT

Of the 15 states participating on the Southern Regional Education Board, six of these states use some type of ACT results as an indicator on their "report cards". The results reported range from sub-test scores, and scores broken down by race and/or gender, to simply reporting the percent of students taking the test. The ACT composite score, which is an average of all four subject areas (English, Math, Reading, and Science Reasoning), was reported on the Profiles.

The appropriateness of including ACT on the *Profile* report is a perpetual issue. Many administrators believe that ACT scores are not representative of the entire school

population and should not be used as a means of comparison. The general consensus among school superintendents was that the high percentage of students taking the ACT in Louisiana may lower the state average. Louisiana does have a large percentage of students taking the ACT as local universities use the ACT rather than the SAT for selection purposes. The mean percent participation in Louisiana is 57.15. Data from other states were not available to examine the relationship of scores to percent participation; therefore, state to state comparisons were not possible. The percent participation for each of the 66 school districts throughout Louisiana was, though, compared to the ACT composite scores for each district in order to ascertain any relationships between the two variables. The percent participation in the ACT for each district was calculated by dividing the number of students taking the ACT by the total number of 12th graders in each district. Hence, the appropriateness of using ACT results as an indicator of overall school effectiveness was examined.

State Test Results

The Louisiana Education Assessment Program (LEAP) utilizes criterion- (CRT) and norm-referenced (NRT) tests as a measure of student achievement. All student level scores for each subject area of the CRT and for the composite score of the NRT were converted to Z-scores and transformed to the same metric (Crone et al., in press) for use in the School Incentive Program. The transformed LEAP score (TLS) was used as the measure of student achievement in this study.

The NRT used by LEAP is the *California Achievement Test* (CAT). The CAT is administered in grades 4, 6, and 9. The entire test includes Reading, Spelling, Language,

Mathematics, Study Skills, Social Studies and Science subtests. The total battery score, which is a combination of reading, language arts, and math, was used in the transformational computation.

The CRT used by LEAP is administered in grades 3, 5, 7, 10 and 11. These tests consist of language arts and mathematics sections for grades 3, 5, 7, and 10. Grades 7 and 10 also include writing, while social studies and science are tested in grade 11. All students must pass all parts of the grades 10 and 11 tests to receive a Louisiana high school diploma, hence these tests are referred to as the Graduation Exit Examinations (GEE).

Methods/Data Source

Louisiana is a state composed of diverse cultures. There are 67 public school districts composed of approximately 1,500 schools. The student population of the public schools is approximately 800,000 while the nonpublic school systems carry around 96,000 students. This study examines data collected on 1,336 public regular education schools. Louisiana has many special, alternative and vocational schools. These schools were eliminated from the study due to a lack of data on certain indicators such as test scores, attendance information or the number of students served by the free lunch program (SES).

All school-level indicators were inspected using three procedures. Pearson bivariate correlations among all variables were examined. As test scores appear to be the outcome of most interest to policy makers and parents, the main concern in the analysis was to examine the relationship of the other variables to the achievement test scores (TLS).

To further examine certain relationships, the population was divided into four quarters based on school size and the percent of students on free lunch (SES). ANOVA procedures were then conducted on these groupings. The independent variables for each ANOVA procedure were SES and school size. SES was examined because of its strong relationship to test scores (TLS). Although school size generally shows no relationship to test results, it was used as a categorization strategy to study the effect of size on other school indicators. Also of interest was whether an interaction effect existed between size and SES for certain indicators. The dependent variables examined in this analysis were TLS, attendance, suspensions, dropouts, and teacher certification.

Results

Class Size Characteristics

The percent of classes with more than 20 students was related more to school size and school type (grade level) than any other factor. Class size appeared to have no link to achievement level as measured by test scores from the state testing program. In other words, schools with a larger percentage of classes containing over 20 students tended to do as well as on the state tests as those with lower percentages.

Classes Taught by Teachers Who Meet State Requirements

In general, as the percentage of classes with certified teachers increased the average school-level test scores increased (Appendix, Table 1.1). For Louisiana schools grouped according to size, the small schools have significantly fewer classes taught by certified teachers, even though small school achievement levels were comparable to that of large school achievement levels (Appendix, Table 1.2). It was also discovered that schools

with higher percentages of students on free lunch generally had the fewest number of classes taught by certified teachers (Appendix, Table 1.3).

Student Dropouts

As would be expected, the percent of student dropouts demonstrated a strong negative correlation with test scores and attendance, and a positive correlation with SES and school size (Appendix, Table 1.1). Therefore, one could predict that those schools with low average test scores and low attendance exhibit a high dropout percentage, and this was generally true. Size and SES must also be considered, especially for the large or low SES schools. These two groups displayed a significantly higher dropout percentage than all other schools examined in this study (Appendix, Table 1.4 & 1.5).

Student Attendance

Percent attendance was directly related to average test scores (Appendix, Table 1.1), and was second only to SES in this relationship. As with dropouts, large schools (Appendix, Table 1.6) and low SES schools (Appendix, Table 1.7) displayed a significantly lower attendance percentage than all other groups. A caveat must be inserted here relative to this indicator. These data were collected without the existence of a standard attendance definition. It was left to each school's discretion to determine what constituted a day of attendance. Therefore, many schools had a higher attendance percentage than should be expected. With the establishment of a uniform definition, the reliability of these data should increase.

Students Suspended and Expelled

The expulsion data provided little useful information. Suspension data, on the other hand, proved to be somewhat more informative. Typically, Louisiana schools with higher suspension percentages had lower test scores (Appendix, Table 1.1). As would be expected, large schools (Appendix, Table 1.8) did suspend a significantly higher percentage of their students than all other schools. It was presumed that suspensions among the low SES schools would be higher, however this was not the case. There appeared to be no significant relationship between suspensions and school-level SES (Appendix, Table 1.9). This indicator was also the third best predictor of test scores among Louisiana public schools.

ACT

The Pearson Correlation between the Composite ACT Score and the percent participation for each district yielded a strong positive correlation between the two variables. In other words, *the greater the percent of students participating in a district, the higher the scores.* This relationship between percent participation and ACT scores can perhaps be explained by the relationship found between percent participation and percent free lunch. The correlation between these two variables was -.61. In other words, as the percent of students on free lunch increased, ACT participation in a district decreased.

Consistent with research results on other test scores (Crone et al., in press), the relationship between the ACT Composite score and percent of students on free lunch yielded a strong negative correlation ($r = -.71$, $p < .0001$). In other words, the average

ACT Composite scores increased as the percent free lunch decreased. An examination of the relationship of the ACT to the TLS was also conducted. The correlation between the ACT Composite score and the TLS for each district was .64 ($p < .0001$).

State Test Results (TLS)

An examination of the correlations between the TLS and input variables showed no relationship between achievement and either size or school type. However, size did appear to be related to achievement among low SES schools. As expected, there was a strong negative correlation between TLS and SES (r=-.72). An examination of correlations between the TLS and the variables used on the *Profiles* (Appendix, Table 1.1.) indicated relationships ($p<.0001$) between TLS and percent attendance (r=.46), percent students suspended (r=-.26), percent dropouts (r=-.40), and percent of classes taught by certified teachers (r=.25).

Regression analysis using these data (excluding dropout data) for all schools (n=1336) showed only three variables that explained a significant amount of variance ($R^2=.66$, $p<.001$) among school-level TLS. The independent contribution of each variable was: SES ($R^2=.52$), percent attendance ($R^2_{change}=.11$), and percent suspended ($R^2_{change}=.03$). A separate regression analysis was performed on just those schools containing student dropout data; any combination of grades 7 through 12. This second analysis (n=642) identified a five variable model ($R^2=.63$, $p<.001$) where SES entered on the first step ($R^2=.42$), the other variables entered were percent attendance ($R^2_{change}=.16$), percent suspended ($R^2_{change}=.04$), and percent dropouts ($R^2_{change}=.01$).

To further examine the factors of SES and size, a 4 X 4 factorial ANOVA was conducted using SES and size as the independent variables and TLS as the dependent variable. Schools were divided into four size groups with cutoff points at the 25th, 50th and 75th percentiles according to their October 1990 membership count. These groups were labeled as *small* if their membership count was at or below 362 students (smallest = 64); *medium-small* if their membership count was from 363 - 505 students inclusive; *medium-large* if their membership count was from 506 - 696 students inclusive; and, *large* if their membership count was at or above 697 students (largest = 2751).

Schools were divided into four SES groups with divisions at the 25th, 50th and 75th percentiles according to their October 1990 free lunch count. These groups were labeled as *low SES* if their free lunch count was at or above 67.80 percent of the October 1990 membership count; *medium-low SES* if their free lunch count was from 67.70% - 47.67% inclusive; *medium-high SES* if their free lunch count was from 47.66% - 31.75% inclusive; and, *high SES* if their free lunch count was at or below 31.74 percent.

An analysis of variance of the school-level TLS using the GLM procedure in SAS was performed for the main effect of school size, the main effect of SES, and size by SES interaction. A significant difference existed among the group means for the main effect variables of size ($p<.01$) and SES ($p<.0001$), as well as the interaction effect of size by SES ($p<.0001$). However, with respect to size a Student-Newman-Keuls test of significance (Appendix, Table 1.10) showed the only significant differences in mean achievement to be between the small schools as compared to the *medium-small* and *medium-large* schools.

A significant difference was noted among all mean transformed LEAP scores for schools grouped by SES. As seen in Table 1.11 (Appendix), the *high SES* schools had the highest average score while the *low SES* schools had the lowest. As noted in other studies, SES appeared to have a much more significant impact on student outcomes than does school size.

When examining mean achievement scores disaggregated by SES within the four size groups, the *low SES* schools yielded the lowest mean scores for each size group. However, when looking at achievement scores disaggregated by size within the four SES groups, there was no significant difference in size *except among the low SES schools*. A closer examination of the *high SES* schools by size revealed that no significant difference existed among those schools grouped by size. Within the *medium-high* SES levels, *small* schools out performed only the *large* schools. For the *medium-low* and *low SES* grouped schools the *small* schools performed significantly higher than all other groups. Therefore with respect to the SES status of the student population of Louisiana schools, small schools appeared to out perform their larger counterparts. The reasons for this are speculative at this point and require further research before sound explanations can be offered.

Discussion

Student achievement among Louisiana schools, as measured by the TLS, was inversely related to the socioeconomic status of the student population, the percent of students suspended, and the percent of student dropouts. Student achievement was directly related to percent student attendance and the percent of classes taught by certified teachers.

School size, school type, and class size appeared to have little direct impact on test scores. However, school size appeared to be important when examined in conjunction with other variables.

In general, *small* Louisiana schools performed as well as the large schools. However, when viewed within the context of low SES, the *small* schools generally showed the greatest level of achievement. For example, among those schools in which 67.8 percent or more of their student population participated in the free lunch program, schools with 362 or fewer students generally out-performed their larger counterparts. These *small low SES* schools also did as well as the *high SES* schools with respect to attendance. School size appeared to be directly related to the percentage of students suspended; in other words, as school size increased so does the percentage of suspensions. No apparent relationship existed between SES and suspensions for Louisiana schools. As would be expected, the *large low SES* schools had the highest percentages of dropouts. The lowest dropout figures were generally among the *small low SES* schools as well as the *small high SES schools*.

Based on this analysis of the 1990-91 data, the following would characterize those Louisiana schools which demonstrated the highest level of student achievement (i.e., perform well on the LEAP tests):

1. a low percentage of the student population on free lunch,
2. a low percentage of students suspended,
3. a low percentage of student dropouts, and
4. high student attendance.

Characteristics 2 - 4 are typical of *small* Louisiana schools. Its possible that the positive effect of these variables may offset the opposite effect that SES appears to have on student achievement. Although the *small* schools generally did as well as, or better, than other Louisiana schools, it was interesting to note here that these schools had the lowest percentage of their classes taught by certified teachers. The greatest contrast existed for the *small medium-high SES* schools. This particular group had the fourth highest TLS and the fourth lowest percent of classes taught by certified teachers among the 16 size by SES school groupings.

When examining the ACT results, regardless of the fact that the ACT was not taken by all students in a school or district, the relationship between the ACT and other known indicators of a school's *health* suggested that the ACT did provide valuable information about a school or district. The results also indicated that the more students per district taking the ACT the higher the scores. It was also found that ACT scores were directly related to SES.

Conclusion

School size is predominantly determined by factors such as location and fiscal resources. Large schools are perceived to be more cost effective; and, in times of funding shortages, consolidation is the alternative most often chosen. Within Louisiana, it appeared that large schools are not educationally effective for the economically deprived students. More in-depth study is called for to determine if other specific differences can be identified that may be impacting student achievement between *large* and *small* schools with low SES students. Plans to counteract these effects are necessary for school

improvement. The potential now exists for identifying those schools which are at the bottom with respect to various indicators. In other words, we are now in a position to identify those schools most in need of help.

Another point of concern is with teacher certification. It appears that certification in its present form does not have as great an impact as expected on student achievement. Even though there was some relationship found between teacher certification and student achievement, school size appeared to nullify that relationship. The relationship between the test scores and teacher certification may be an ineffective means by which teacher effectiveness is determined and should be viewed with caution. Further study is warranted for the following reasons:

1. In this study, certification encompasses all teachers in all disciplines, while the test data is related to only certain subject areas. Different results may be obtained if, for example, teacher certification within science is compared with the test results on the science portion of the state test.
2. A second caution must be raised regarding the level at which students are tested or how we define learning. If students are consistently tested at the lower levels of learning (i.e., knowledge), then the net effect of certified versus noncertified teachers may be negligible.

These and other factors must be given serious consideration if teacher delivered instruction is to have a significant impact on student learning.

Criticisms regarding the usefulness of ACT scores appear to be unfounded and based on faulty perceptions. The ACT score does provide useful information. Not to report

ACT data because large numbers of students take the test is unjustified. As the number of students who take the test increases, the scores should become more reflective of education in Louisiana.

Further research is warranted to determine what education based changes can be implemented to overcome the negative influences of a low socioeconomic environment with respect to state and national evaluation efforts. Analyses of this type must be continued and the information dispersed throughout the education community, if sound changes are to be expected. If changes are continually made based on common perceptions and political agenda, then productive alterations are likely to be accidental at best, and in the long run may do more harm than good.

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Appendix

Table 1.1

Pearson correlation coefficients for Louisiana Progress Profile indicators and other related variables with the school-level average TLS.

	1	2	3	4	5	6	7	8	9
1) Transformed-LEAP Score (TLS)									
2) SES (Percent on Free lunch	-.72**								
3) Membership (size)		-.26**							
4) School Type		-.32**	.18**						
5) Percent Attendance	.46**	-.19**	-.25**	-.25**					
6) Percent Classes with Certified Teachers	.25**	-.24**	.11**	-.09*	.17**				
7) Percent Classes over 20	-.07*		.38**	-.35**	-.08*				
8) Percent Dropouts	-.40**	.11*	.23**	.22**	-.60**				
9) Percent Expelled	-.22**		.18**	.21**	-.35**	-.08*	.09*	.16**	
11) Percent Suspended	-.27**		.22**	.42**	-.37**	-.11	.06*	.17**	.57**

**p<.0001
*p<.01
N = 1336 for all variables except percent dropouts
N = 642 for percent dropouts

Table 1.2

Comparison of the percent of classes with certified teachers for schools grouped by size using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Small Schools	85.49	10.35	336
Medium Small Schools	87.14$_a$	9.17	329
Medium Large Schools	87.87$_a$	9.24	335
Large Schools	88.49$_a$	7.67	336

State: Mean = 87.25, Standard Deviation = 9.22, N = 1336.

Note. Means having the same subscript are not significantly different at p<.05. Each unit percentage represents approximately 1,400 classes.

Table 1.3

Comparison of the percent of classes with certified teachers for schools grouped by SES using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Low SES Schools	84.06	9.86	333
Medium-Low SES Schools	86.82	9.40	334
Medium-High SES Schools	88.28	8.88	334
High SES Schools	89.81	7.62	335

State: Mean = 87.25, Standard Deviation = 9.22, N = 1,336.
Note. All means are significantly different at p<.05.

Table 1.4

Comparison of the percent of student dropouts for schools grouped by size using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Small Schools	1.02_a	1.51	163
Medium Small Schools	1.38_a	2.26	129
Medium Large Schools	1.46_a	2.21	131
Large Schools	2.41	3.51	219

State: Mean = 1.66, Standard Deviation = 2.66, N = 642.
Note. Means having the same subscript are not significantly different at p<.05. These data represent only those schools that contain grades 7 through 12.

Table 1.5

Comparison of the percent of student dropouts for schools grouped by SES using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Low SES Schools	2.63	4.06	85
Medium-Low SES Schools	1.56_a	2.83	145
Medium-High SES Schools	1.40_a	2.18	186
High SES Schools	1.56_a	2.14	226

State: Mean = 1.66, Standard Deviation = 2.66, N = 642.
Note. Means having the same subscript are not significantly different at $p<.05$.
These data represent only those schools that contain grades 7 through 12.

Table 1.6

Comparison of the percent of student attendance for schools grouped by size using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Small Schools	94.95_a	1.63	336
Medium Small Schools	94.53_a	2.15	329
Medium Large Schools	94.05	3.62	335
Large Schools	93.08	3.88	336

State: Mean = 94.15, Standard Deviation = 3.05, N = 1336.
Note. Means having the same subscript are not significantly different at $p<.05$.
These data were collect without a uniform definition for a day of attendance.

Table 1.7

Comparison of the percent of student attendance for schools grouped by SES using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Low SES Schools	93.18	4.29	333
Medium-Low SES Schools	94.30_a	2.91	334
Medium-High SES Schools	94.48_a	2.34	334
High SES Schools	94.65_a	1.93	335

State: Mean = 94.15, Standard Deviation = 3.05, N = 1333.
Note. Means having the same subscript are not significantly different at $p<.05$.
These data were collect without a uniform definition for a day of attendance.

Table 1.8

Comparison of the percent of students suspended for schools grouped by size using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Small Schools	6.23_a	7.28	336
Medium Small Schools	7.12_a	8.64	329
Medium Large Schools	7.98_a	9.07	335
Large Schools	10.65	9.02	336

State: Mean = 8.00, Standard Deviation = 8.68, N = 1336.
Note. Means having the same subscript are not significantly different at $p<.05$.
These data reflect only those students suspended off the school property.

Table 1.9

Comparison of the percent of students suspended for schools grouped by SES using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Low SES Schools	7.63	9.24	333
Medium-Low SES Schools	8.20	9.10	333
Medium-High SES Schools	8.15	8.71	334
High SES Schools	8.00	7.62	335

State: Mean = 8.00, Standard Deviation = 8.68, N = 1,335.
Note. No significant difference among group means at $p<.05$.
These data reflect only those students suspended off the school property.

Table 1.10

Comparison of Transformed LEAP Score means for schools grouped by size using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Small Schools	502.27_{a}	33.84	336
Medium Small Schools	495.95_{b}	38.57	329
Medium Large Schools	495.98_{b}	40.54	335
Large Schools	500.97_{ab}	42.96	369

State: Mean = 498.81, Standard Deviation = 39.18, N = 1,336.
Note. Means having the same subscript are not significantly different at $p<.05$.

Table 1.11

Comparison of Transformed LEAP Score means for schools grouped by SES using the Student-Newman-Keuls test of significance.

Source of Variation	Means	Standard Deviation	N
Low SES Schools	456.94	32.99	333
Medium-Low SES Schools	496.96	27.96	334
Medium-High SES Schools	512.62	24.24	334
High SES Schools	528.50	29.39	335

State: Mean = 498.81, Standard Deviation = 39.18, N = 1,336.
Note. All group means are significantly different at $p<.05$.